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CADRE Quick-Look

Catalyst for Air & Space Power Research Dialogue

Transforming BDA: Effects-Based Assessment (EBA)

Douglas E. Lee

Problem: Battle damage assessment is a cumbersome process that is not conducive to current operations. At best BDA provides a binary response as to whether a target has been destroyed—ignoring the other facets associated with today's effects-based environment. To be useful, any assessment process must provide the combined force air component commander (CFACC) with facts that translate a sortie's consequences into effects that can be traced from the tactical through the operational to the strategic level.

Discussion: To a certain extent, BDA has been treated more as an afterthought rather than as a critical capability. The Department of Defense's force transformation strategy offers an opportunity to transform BDA into a network-centric EBA tool that will provide a CFACC with near-real-time results. That information could include weapon system, target, or *socioeconomic* status, as well as relative and cumulative changes in desired effects from the tactical through the strategic level.

With DOD's transformation strategy, information age military forces will become more network-centric with increased information sharing that provides "actionable information at all levels of command."[1] A key interoperability requirement levied on the Service is to ensure new systems—C4ISR, weapons, and logistics—incorporate network Internet protocol (IP) standards.[2] Establishing an IP standard will not only improve interoperability, it also facilitates near-real-time information and will benefit the assessment process with capability to easily fuse ISR sensors.

The difference between the current and future processes requires shifting the assessment focus from target destruction to an ability to assess effects and actions performed (i.e. aircraft "presence" missions or neighborhood patrols) during the constructive or war termination phase of combat. Gathering information for either assessment will be similar; however, the process to assess effects will vary. The primary tactical assessment technique associated with "bombs on target" sorties is to verify that the objective was destroyed. If the target was destroyed, the desired effect was attained. If the target was not destroyed, the assessment process will be similar to a "constructive" sortie. In both cases, secondary or tertiary effects must be identified and evaluated. For targets that cannot be clearly identified as destroyed, military utility can be ascertained in other ways (measuring secondary or tertiary effects), such as SIGINT or HUMINT, to ensure that while the physical destruction metrics were not met, the effect was achieved.

EBA in the war termination phase of combat is a little more problematic, primarily because of our lack of experience. While there is usually a direct correlation between a military target's purpose and it's function, the socioeconomic effects resulting from a presence or humanitarian mission are not as well defined. The lack of definition for military assessment purposes does not mean those effects do not exist. Many effects are gathered as a matter of course in the United States, today, and include public opinion polls, imports, exports, unemployment rates, crime statistics, and power production. Other effects that can be used are already monitored during an operation and include attacks on US troops, civilian deaths, reconstitution of public service institutions, and, in OIF, number of high value targets captured from the Iraqi most wanted playing cards.

Assessing effects should not begin after a mission is executed; rather, the process should start when the strategic goals for a campaign are developed, and those effects should be refined as higher fidelity is applied to the goals. The end result will be comprehensive assessment plan that translates actions (i.e., destroy, neutralize, support, enable) into effects (i.e., prevent, deny, protect, comfort). Understanding the relationship between a strategic goal and its associated effects, employs resources more efficiently while reducing the assessment cycle.

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Possible Courses of Action:

Near Term:

1. Integrate effects assessment into every phase of the targeting cycle.

2. Expand intelligence collection and assessment requirements to include socioeconomic effects and correlate those effects to actions.

3. Develop a curriculum that educates airmen about effects based operations, focusing on destructive and constructive areas requiring second and tertiary effects.

4. Begin an initiative to fuse sensors, identifying potential critical shortfalls in the war termination phase.

Long Term:

1. Develop models patterned after SIMCITY™ or Civilization® that will help, in near-real-time, forecast effects based on specific actions in the socioeconomic arena.

2. Ensure the DOD transformation mandate for Internet protocol standards is implemented in emerging systems, focusing on sensor fusion.

[1] Department of Defense. *Transformation Planning Guidance*, April 2003, 10.
[2] Ibid, 30.